

84 Scientific Notation

5.00000

500,000

$500,000 = 5.0 \cdot 10^5$

$0.00037 = 3.7 \cdot 10^{-4}$

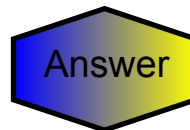


8.4 Scientific Notation

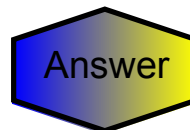
To write in *STANDARD* or *DECIMAL* form:

1. Move the decimal the number that the exponent indicates.
2. If the exponent is positive, move decimal to the right.
3. If the exponent is negative, move decimal to the left.

EX 1) $2.834 \cdot 10^2 =$



EX 2) $6.3 \cdot 10^{-4} =$



To write in Scientific Notation:

1) Move the decimal so that $1 \leq n < 10$ and add $\bullet 10$.

2) Count how many times you had to move the decimal. This number becomes your exponent on the 10.

***If you move your decimal to the left, attach a positive exponent.**

***If you move your decimal to the right, attach a negative exponent.**

Ex 3) 0.000058 =

Answer

Ex 4) 629,000 =

Answer

Computing with Scientific Notation

Ex 5) $(2.5 \cdot 10^4)(5.8 \cdot 10^2)$

$\therefore 145 \cdot 10^6 \rightarrow 1.45 \cdot 10^7$

Ex 6) $\frac{1.2 \cdot 10^{-1}}{4.8 \cdot 10^{-4}}$

$\frac{10^4}{10^1}$

$0.25 \cdot 10^3 \quad 2.5 \cdot 10^2$

Power of a Product

Ex 7) $(2.1 \cdot 10^{-3})^2 =$

$$\begin{aligned} & \cdot 2.1^2 \cdot 10^{-6} \\ & 4.41 \cdot 10^{-6} \end{aligned}$$

$$\textcircled{8} \quad 44,1 \cdot 10^{-6}$$

$$4.41 \cdot 10$$

Ex 8) $(4 \cdot 10^{-2})^3 =$

Answer